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MEMORANDUM

To: Members of the Subcommittee on National Security, Emerging Threats, and International Relations

From: Christopher Shays
Chairman

Date: July 14, 2005

Subject: Briefing memo for the July 19, 2005 Subcommittee hearing

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Attached find the briefing memo required by Committee rules for the hearing on Tuesday, July 19, 2005 entitled, *Occupational and Environmental Health Surveillance of Deployed Forces: Tracking Toxic Casualties.* The hearing will convene at 10:30 a.m. in room 2154 Rayburn House Office Building.

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MEMORANDUM

To: Members of the Subcommittee on National Security, Emerging Threats, and International Relations

From: Kristine K. Fiorentino KF

Subject: Briefing Memorandum for the hearing, *Occupational and Environmental Health Surveillance of Deployed Forces: Tracking Toxic Casualties,* scheduled for Tuesday, July 19, 2005, at 10:30 a.m. in Room 2154, Rayburn House Office Building.

PURPOSE OF THE HEARING

The purpose of the hearing is to examine how the military services have implemented DOD policies for collecting and reporting Occupational and Environmental Health Surveillance (OEHS) data for deployed forces and how OEHS reports will be used to address health issues of servicemembers.

HEARING ISSUES

1. **How effective have the military services been at collecting and reporting OEHS data for deployed forces?**

2. **How useful are OEHS reports for addressing health issues of servicemembers?**

BACKGROUND

Since the end of Operation Dessert Shield/Storm in 1991, more than 125,000 U.S. veterans of the Gulf War have complained of illnesses. Typical complaints of Gulf War veterans are: flu-like symptoms, chronic fatigue, rashes, joint and muscle pain, headaches, memory loss, reproductive problems, depression, loss of concentration, and gastro-intestinal problems. Others suffer cancers, heart and lung problems, and amyotrophic lateral sclerosis (ALS) or Lou Gehrig's Disease.

Many believe they are suffering chronic disabling conditions as a result of wartime exposures to one or more of 33 toxic agents known to be present in the Gulf War theater of operations. Before, during and after the hostilities, U.S. troops were exposed to a variety of potentially hazardous substances. Potential exposures include chemical and biological warfare agents as well as pesticides, insect repellants, leaded diesel fuel, depleted uranium, oil well fires, infectious agents, the experimental drug pyridostigmine bromide (PB), and multiple vaccines including anthrax. However, a lack of data has made it difficult to establish causal links between exposures and subsequent illnesses.

According to a Government Accountability Office (GAO) report, "Research efforts to determine the cause of Gulf War illnesses have been hampered due to incomplete medical surveillance data on 1) the names and location of personnel deployed to the Persian Gulf, 2) exposure of personnel to environmental health hazards 3) changes in the health status of personnel deployed in the theater, and 4) records of immunizations and other health services provided to the individuals while deployed." **(Web Resource 1)** As a result, GAO found, "the data available were poorly suited to support epidemiological and health outcome studies related to veterans' Gulf War

illnesses." **(Web Resource 1)** Likewise, the Presidential Advisory Committee on Gulf War Veterans' Illnesses final report concluded many of the health questions veterans have may go unanswered due to a lack of data. **(Web Resource 2)**

Since Operation Dessert Shield/Storm in 1991 several steps have been taken to increase information and knowledge about environmental and occupation exposures in service. This information will be especially necessary for troops deployed in Operation Iraqi Freedom (OIF) since they share similar deployment locations with the 1991 Persian Gulf War veterans.

Public Law 105-85, National Defense Authorization Act, 1998

Public Law 105-85 includes provisions for improving medical tracking systems for members deployed overseas in contingency or combat operations. The law requires the Secretary of Defense to establish a system to evaluate the medical condition of deployed servicemembers. Elements of the system must include predeployment and postdeployment medical examinations, an assessment of mental health and the drawing of blood samples. The law mandates medical records including immunizations be maintained in a centralized location. The Secretary of Defense is also required to submit to Congress a report containing a plan for collecting and maintaining information regarding the daily location of units of the Armed Forces, and to the extent practicable individual members of such units. The law also requires the deployment of specialized units for detecting and monitoring chemical, biological and other hazards in the theater of operations. **(Web Resource 3)**

Department of Defense Force Health Protection

The Department of Defense has applied lessons learned from the Persian Gulf War to develop the Force Health Protection (FHP) strategy. The Force Health Protection strategy focuses on maintaining a healthy and fit force, casualty prevention and casualty care. These goals are to be accomplished through the use of military medical surveillance, environmental monitoring, personal protection, and personnel monitoring. The FHP program is designed to track service members' diseases and injuries and to provide follow-up treatment for deployment-related health conditions.

The Department of Defense plan to provide force health protection includes improving risk communication, medical intelligence, providing environmental risk assessments to commanders on the battlefield, giving medical threat briefings and distributing pocket-sized health guides to deployed personnel. The Defense Medical Surveillance System has created a database on diseases military personnel may be exposed to during their deployment. **(Attachment 1, p, 1)**

The DOD has also established three deployment health centers for health surveillance, health care, and health research. The centers focus on prevention, treatment and understanding of deployment health concerns. **(Attachment 2, p. 1)**

Health Assessments

The DOD implemented predeployment and postdeployment health assessments to validate an individual's medical readiness to deploy and address health concerns upon return. The health assessments are questionnaires servicemembers fill out. Troops are asked to rate their health, and are asked whether they have any health concerns, or concerns about possible exposures or events during their deployment. Those service members who answer, "yes" to certain questions are referred for further examination. Questionnaires are reviewed and signed by health care personnel. **(Attachment 2, p. 1)**

After a physician reviews the form, it is sent to Walter Reed Army Medical Center in Washington, D.C., where it is scanned electronically and stored for future use. According to Dr. Michael Kilpatrick, Deputy Director for the Deployment Health Support Directorate, the health assessments are used "to see if there are any changes in service members' health or condition that may require attention before or after they deploy." **(Attachment 3, p. 2)** Data from the health assessments are maintained by the Defense Medical Surveillance System (DMSS). DOD believes its predeployment and postdeployment questionnaires fulfill Public Law 105-85 requirements to conduct predeployment and postdeployment medical examinations of soldiers.

DOD also requires a blood sample be obtained no later than 30 days after arrival at a demobilization site or home station and forwarded to the

DOD Serum Repository. Blood samples from National Guard and Reserve members are to be obtained during demobilization. **(Attachment 4, pp. 1-2)**

The military has recently developed a Post-Deployment Health Reassessment form which will be used to evaluate the health of servicemembers three to six months after deployment. **(Web Resource 4)** This form will be useful in addressing concerns that health problems may not present themselves until several months after returning from deployment.

Center for Health Promotion and Prevention Medicine (CHPPM)

In 1994, the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) was established in order to enhance DOD's ability to perform environmental monitoring and tracking. In 1995, the 520Th Theater Army Medical Laboratory was established. The laboratory is a deployable public health laboratory which can provide environmental sampling and analysis in theater. The sampling can be used to determine what preventative measures and safeguards should be taken to protect troops from harmful exposures. **(Web Resource 1)**

The information CHPPM obtains through air, soil, and water sampling is entered into a database linked with Defense Manpower Data Center (DMDC) information on the units deployed to the theater. By using mapping data obtained from the National Imaging and Mapping Agency, CHPPM analysts can identify which units are in the most danger of exposure to environmental contaminants. This is known as the Geographical Information System, and it can calculate the degree of risk to specific units at specific theater locations. **(Web Resource 1)**

GAO Report

The GAO will release a report at the hearing entitled, "Defense Health Care: Improvements Needed in Occupational and Environmental Health Surveillance to Address Immediate and Long-term Health Issues." The hearing will focus on the findings of this report. **(Attachment 5, p. 1)**

Occupational and environmental health surveillance (OEHS) is an activity that includes the regular collection and reporting of occupational and environmental health hazard data by the military services during a

deployment that can be used to monitor the health of servicemembers and to prevent, treat or control disease or injury.

DOD guidelines require the preventative medicine units of each military service be responsible for collecting and reporting deployment OEHS data. This data is categorized into three types of reports: baseline reports, routine reports and incident-driven reports. Baseline reports include site surveys and assessments of occupational and environmental hazards prior to deployment of servicemembers and initial environmental health site assessments one servicemembers are deployed. Routine reports show the results of regular monitoring of air, water, soil or other known or possible hazards identified in the baseline assessment. Incident-driven reports document exposure or outbreak investigations.

Currently there are no universal requirements on the number or type of OEHS reports that must be created for each deployment location. The preventative medicine units submit OEHS reports to their command surgeons who review all reports and ensure they are sent to a centralized archive maintained by CHPPM. In some circumstances the preventative medicine units can send OEHS reports directly to CHPPM. These archived OEHS reports will be needed by researchers to conduct epidemiologic studies related to long-term health issues of deployed servicemembers.

DOD has established a system for identifying which servicemember deployed to the theater. The services are required to provide deployment data to the Defense Manpower Data Center (DMDC) in Monterey, California, which is responsible for maintaining a database on those servicemembers who are deployed. The DMDC database includes information on the units and personnel within those units who have deployed to a theater. However, DOD does not have a system for tracking the movement of individual servicemembers in units within the theater. Individual troop location data is needed to accurately identify exposures of servicemembers to health hazards in the theater. **(Attachment 5, p. 1)**

DOD plans to combine exposure data with personnel information from the Defense Manpower Data Center in order to enable DOD to identify service members who were nearby when an exposure occurred. **(Web Resource 5)**

Health Exposures

Several New York National Guard soldiers from the 442nd Military Police Company complained of having health effects after serving in Samawah, Iraq in 2003. The soldiers complained of headaches, fatigue, shortness of breath, nausea, dizziness, joint pain and frequent urination. Their unit was stationed at an abandoned railroad depot area where tank battles had taken place. **(Attachment 6, p. 1)**

Dutch soldiers who arrived to replace the Guardsmen claimed they swept the area with Geiger counters and found high radiation levels. Members of the 442nd Military Police Company believe they have been exposed to depleted uranium. They had their urine tested for depleted uranium by an independent uranium expert who found their depleted uranium levels to be high. However, later testing done by DOD did not show elevated levels for these soldiers. Depleted Uranium (DU) is a waste product of the uranium enrichment process. It is used in some artillery shells and as armor plating for tanks. When tanks are hit by depleted uranium shells, a fine aerosol of dust is released. **(Attachment 6, pp. 3-4)** Ingestion or inhalation of depleted uranium poses a potential health risk due to DU's heavy metal toxicity. However the medical community has not seen any adverse health effects associated with internal exposure. DU was used by the US military in combat weapons for the first time during the 1991 Gulf War. **(Attachment 7, p. 1)**

DISCUSSION OF HEARING ISSUES

1. How effective have the military service been at collecting and reporting OEHS data for deployed forces?

The collection and reporting of OEHS data varies among the services. Different data collection methods have been used by the services for monitoring air and soil. The military services also have differences in terms of their levels of training and expertise for soldiers responsible for conducting OEHS activities. **(Attachment 5, p. 1)**

The military services have not submitted all of the OEHS reports that have been completed in OIF. The reason for this, according to DOD, is

because there is limited access to communication equipment to transmit reports for archiving. DOD also does not have the required consolidated lists of all OEHS reports completed during each quarter in OIF and therefore can not identify reports that have not been received.

The military services have not submitted location data for the first several months of OIF. The Marine Corps has provided location data by country only, while the other services have named the base camp or grid coordinate locations. Without sufficient location data, it will be difficult to link individual servicemember's records to OEHS report.

There are also concerns preventative medicine units may not know the full extent of hazards and exposures since OEHS reports tend to be limited to established sites such as base camps or forward operating bases due to restrictions on the portability of OEHS equipment and risks faced during live combat. **(Attachment 5, p. 1)**

2. How useful are OEHS reports for addressing health issues of servicemembers?

Veterans will need access to OEHS reports in order to ensure VA will provide health care and disability compensation for health effects they may be suffering as a result of exposures. Researchers will need OEHS information in order to conduct epidemiologist studies related to long-term health problems of servicemembers. However, most OEHS reports are classified and will likely remain classified until OIF has ended. Thus, there is concern OEHS reports will not be accessible.

Many soldiers may not be aware that OEHS reports exist. In some cases OEHS reports were created after a unit had left Iraq. The services have attempted to include OEHS summaries in the medical records of servicemembers deployed to certain locations. However, the services have not made any effort to have those summaries placed in units records who may have left prior to the OEHS reports being made.

DOD and VA also do not have a federal research plan for using OEHS reports to follow the health of OIF servicemembers over time. According to the draft GAO report, "DOD has made progress in using OEHS reports to address immediate health risks during OIF, but limitations

remain in employing these reports to address both immediate and long-term health issues." **(Attachment 5, p. 1)**

Some are concerned OEHS data is not in an easily understandable format. Until DOD organizes the various pieces of OEHS data into a readable format, it will be difficult for the VA or researchers to make use of this information to address the health issues of servicemembers.

Mr. Brian Scott LaMorte, Company Sergeant Major, North Carolina Army National Guard, will testify about the exposures he experienced and health concerns he has after serving in Afghanistan.

Mr. Raymond Ramos, Retired Staff Sergeant will testify about the exposures he experienced and health problems he suffers after serving in Iraq.

Dr. Marcia Crosse, Director Health Care, GAO will present testimony regarding the GAO report entitled, "Defense Health Care: Improvements Needed in Occupational and Environmental Health Surveillance to Address Immediate and Long-term Health Issues.

Dr. Michael Kilpatrick, Deputy Director of the Deployment Health Support Directorate, Department of Defense will present testimony regarding how the military services are collecting and reporting occupational and environmental health surveillance data.

Dr. Susan Mather, Chief Officer, Office of Public Health and Environmental Hazard, Department of Veterans Affairs will testify about how occupational and environmental health surveillance reports will be used to address health issues of servicemembers.

ATTACHMENTS

1. Captain David H. Trump. "Force Health Protection: 10 Years of Lessons Learned by the Department of Defense." *Military Medicine* (March 2002).

2. Information for Member of Congress entitled, "Department of Defense Force Health Protection" (March 12, 2003).

3. Sgt. 1st Class Doug Sample, "Pentagon Has A New Strategy for Monitoring Deployment Health Care" American Forces Press Service (February 11, 2003).

4. Information Paper entitled, "Military Medical Record Keeping During and After the Gulf War."

5. Highlights of GAO-05-632 report entitled "Defense Health Care: Improvements Needed in Occupational and Environmental Health Surveillance to Address Immediate and Long-term Health Issues." July 2005.

6. News Article on 442nd National Guard Unit exposures.

7. Deployment Health Support Directorate "Operation Iraqi Freedom (OIF) Management of Depleted Uranium Exposures."

WEB RESOURCES

1. General Accounting Office Report, "Defense Health Care: Medical Surveillance Improved Since Gulf War, but Mixed Results in Bosnia." NSIAD-97-136, May 13, 1997 http://www.gao.gov/

2. Presidential Advisory Committee on Gulf War Veterans' Illnesses Final Report. http://www.gulflink.osd.mil/gwvi/finalcvr.html

3. Public Law 105-85, National Defense Authorization Act, 1998. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=105_cong_public_laws&docid=f:publ85.105.pdf

4. Post Deployment Health Reassessment Form 2900 http://www.pdhealth.mil/dcs/pdhra.asp

5. Spring 2005 Gulf War Update http://deploymentlink.osd.mil/news/dquarterly/spring05/gulf_war_update.htm

Committee on Government Reform
Subcommittee on National Security, Emerging Threats, and International Relations
"Occupational and Environmental Health Surveillance of Deployed Forces: Tracking Toxic Casualties"
(July 19, 2005)
Witness List

PANEL ONE

Mr. Brian Scott La Morte
Company Sergeant Major
B Company, 3rd Battalion, 20th Special Forces Group (Airborne)
North Carolina Army National Guard

Mr. Raymond Ramos
Retired Staff Sergeant
442nd military police

Dr. Marcia Crosse
Director, Health Care
Government Accountability Office

PANEL TWO

Dr. Michael Kilpatrick
Deputy Director of the Deployment Health Support Directorate
Department of Defense

Dr. Susan Mather
Chief Officer, Public Health & Environmental Hazards
Veterans Health Administration
Department of Veterans Affairs

Accompanied by:

Dr. Mark Brown
Director, Environmental Agents Service

Attachment 1

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ORIGINAL ARTICLES

MILITARY MEDICINE, 167, 3:179, 2002

Force Health Protection: 10 Years of Lessons Learned by the Department of Defense

Guarantor: CAPT David H. Trump, MC USN
Contributors: John F. Mazzuchi, PhD*; CAPT David H. Trump, MC USN†; Col James Riddle, USAF BSC‡; CAPT Kenneth C. Hyams, MC USN§; MAJ Brian Balough, MS USA‖

The Department of Defense has applied lessons learned since the Persian Gulf War to develop the force health protection (FHP) strategy. The goal of this new, unified strategy is to protect the health of military members from medical and environmental hazards associated with military service to the maximum extent possible. FHP is an evolving strategy that seeks to balance the military health system's responsibilities to promote and sustain health and wellness throughout each person's military service; prevent acute and chronic illnesses and injuries during training and deployment; and rapidly stabilize, treat, and evacuate casualties. In addition, FHP demands a continuous assessment of the current and future health of military members through medical surveillance, longitudinal health studies, adequate medical record documentation, and clinical follow-up. Effective communication with military members, leaders, veterans, families, and the public regarding military members' health status and the health risks of military service is a key element of the FHP strategy.

Introduction

In the 10 years since the Persian Gulf War, the U.S. military has had to address the concerns of Gulf War veterans regarding their health and service in that war. At the same time, U.S. military forces have deployed to Somalia, Rwanda, Haiti, Bosnia, and Kosovo and have continued to deploy to southwest Asia. Many lessons have been learned from the successes and failures in disease prevention, health risk communication, and military health care from responding to past and current deployments. These lessons learned are being incorporated into new policy and programs that will fundamentally change and improve how the Department of Defense (DoD) addresses the health needs of military personnel.[1]

Recent Health Concerns

To understand the impetus behind this change, it is important to review the health concerns that began with the deployment of U.S. troops to the Persian Gulf in August 1990. There was substantial apprehension that the harsh desert environment would place the health of troops at risk and that a full-scale war with Iraq would produce massive casualties.[2,3] Fortunately, the successful military operation limited deaths among U.S. forces: 147 died as a result of combat injuries, and 225 died from noncombat causes, mainly training and motor vehicle accidents.[4] On the battlefield, U.S. troops were in good health: overall injury and illness rates were lower in this conflict than in previous wars.[5,6] At the end of the Gulf War, the primary health concern was the potential effect of exposure to smoke from 600 oil well fires ignited by the retreating Iraqi army.[7]

Within the DoD and the military health system, the Gulf War was judged to be a victory in 1991, not only for our combat forces but also for military medicine.[3] Consequently, reports of ill health among veterans that began to emerge several months after the war ended were unexpected.[8,9] For many within and

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outside the DoD, it was difficult to understand how serious health problems could develop after a war that had produced so few battlefield casualties. Initial investigations failed to find a unique disorder or a likely wartime exposure that could explain the delayed medical problems.[5,10] A decisive response was delayed, and the protracted public and scientific debate about a possible "Gulf War syndrome" began.

One of the primary mistakes made after the Gulf War was the failure to understand the importance of health effects on veterans and the impact on society of even a brief and successful war. After every war, many veterans require increased health care and compensation for illnesses and injuries. In addition, questions about unexplained symptoms or "war syndromes" have been a recurring problem since at least the U.S. Civil War.[11] Just as importantly, after the trauma of armed conflict, a national period of adjustment and reassessment follows. The U.S. Government should have been better prepared to address the concerns that inevitably arise about wartime events. Considering the acrimony of the Agent Orange controversy after the Vietnam War, more extensive risk assessment and communication efforts should have been initiated during and after the Gulf War.[12] When the DoD could not answer questions about wartime exposures and the extent of health problems among veterans, misunderstandings and doubts inevitably resulted.

Two additional factors contributed to the developing controversy and criticism of government efforts. As a result of recent structural changes in U.S. combat forces, more than 100,000 Gulf War troops were reservists and National Guard personnel.[5] On their return to the United States, these war veterans lost ready access to military medical care because only actively serving troops are eligible for full health care benefits in military treatment facilities.[13] Additionally, the rapid and unprecedented shrinking of the all-volunteer military force in the early 1990s resulted in a reduction of the active force by more than 600,000 personnel by 1995.[14] Many active duty troops who had served in the Gulf War were involuntarily separated from the military, losing financial and social stability and access to routine military health care. Gulf War veterans faced further limitations in obtaining health care and compensation from the Department of Veterans Affairs (VA) because of specific legal guidelines for eligibility. Even when civilian medical care was obtainable, health care providers were not always knowledgeable about the unique environmental and infectious disease exposures during the Gulf War. Many veterans were left without support, frustrated, and confused about the potential health effects of their wartime experiences. The veterans' service organizations, the press, and elected officials were appropriately alarmed by the plight of veterans.

Finally, the public and scientific debate over the health of Gulf War veterans and their exposures in the war merged with the ongoing and much larger national debate regarding environmental risks and unexplained illnesses.[15] The public already had concerns about unexplained illnesses such as chronic fatigue syndrome, the threat of another new disease such as acquired immunodeficiency syndrome or Lyme disease, and the potential health risks from low-level chemical exposures in everyday life. It was understandable for the public, the media, and scientists to be concerned that veterans might be experiencing a new, unexplained illness caused by their exposures in a hazardous environment half a world away.

Force Health Protection

The military health system needed to change to deal with concerns and unanswered questions about the health of veterans and war-related exposures after a future hazardous deployment. These changes evolved during the course of the decade, culminating in a Joint Staff vision for force health protection (FHP).[16] The FHP strategy balances the DoD's responsibilities to (1) promote and sustain health and wellness throughout each person's military service; (2) prevent acute and chronic illnesses and injuries; and (3) rapidly stabilize, treat, and evacuate casualties. In addition, FHP acknowledges the importance of conducting health surveillance and longitudinal health studies and ensuring adequate health record documentation and clinical follow-up for deployed forces.[1]

FHP arose from earlier initiatives to improve the military health system's response to deployments and the health of deployed forces. A January 1996 policy memorandum directed a detailed medical surveillance and health protection plan for U.S. military forces deploying to Bosnia.[17] In August 1997, the DoD issued a directive, "Joint Medical Surveillance," and an accompanying instruction, "Implementation and Application of Joint Medical Surveillance for Deployments," which corrected many inadequacies in the military's response to health and health protection during deployments (Table I).[18,19] In 1998, the Joint Staff, in collaboration with the Assistant Secretary of Defense for Health Affairs, specified the preventive actions that must take place before, during, and after deployments to ensure better disease surveillance, health protection, and properly documented health care.[20,21] The FHP strategy encompasses the integrated preventive, clinical, and operational programs necessary to protect the health of the "total force."[16] The Joint Staff is now updating deployment guidance to expand surveillance and documentation of environmental and occupational hazards and is developing the plan to ensure progress in achieving all of the elements in the FHP vision.

FHP is a significant departure from previous medical readiness planning, which focused on conventional combat medicine and casualty care. FHP places increased emphasis on helping service members and families stay healthy and fit and on preventing injury and illness, while maintaining an exceptional casualty management system. The DoD has been guided in these efforts by a series of expert panels that have evaluated Gulf War and deployment health issues. Recommendations have come from several Institute of Medicine committees,[22-27] a Defense Science Board Task Force,[5] a National Institutes of Health Technology Assessment Workshop,[28] a Presidential Advisory Committee,[29] and a Presidential Review Directive.[30] Within the DoD, the Joint Staff obtained recommendations from 11 FHP working groups.[16] In 1999, direct guidance was provided in the Institute of Medicine report "Strategies to Protect the Health of Deployed U.S. Forces: Medical Surveillance, Record Keeping, and Risk Reduction."[27] The perspectives of independent panels of scientific and public health experts have been vital in developing effective policy to address the complex and controversial health issues of importance to military members and veterans.

TABLE I

MAJOR DOD FORCE HEALTH PROTECTION POLICIES

Policy Type/Number	Title	Date
DoD Directive 6490.2	Joint Medical Surveillance	August 30, 1997
DoD Instruction 6490.3	Implementation and Application of Joint Medical Surveillance for Deployments	August 7, 1997
Joint Staff Memorandum MCM-251-98	Deployment Health Surveillance and Readiness	December 4, 1998
ASD Health Affairs Policy	Policy for Predeployment and Postdeployment Health Assessments and Blood Samples	October 6, 1998
DoD Directive 4715.1	Environmental Security	February 24, 1996
DoD Directive 6490.5	Combat Stress Control Programs	February 23, 1999
DoD Directive 6205.3	DoD Immunization Program for Biological Warfare Defense	November 26, 1993
DoD Instruction 6055.1	DoD Safety and Occupational Health Program	August 19, 1998
ASD Health Affairs Policy	Policy for National Surveillance for Birth Defects among Department of Defense Health Care Beneficiaries	November 17, 1998
ASD Health Affairs Policy	Establishment of DoD Centers for Deployment Health	September 30, 1999
DoD Directive 6200.2	Use of Investigational New Drugs for Force Health Protection	August 1, 2000

ASD Health Affairs, Assistant Secretary of Defense for Health Affairs.

Lessons Directing New Policy

The FHP strategy evolved from five major lessons learned during the past decade. FHP represents an integration of these lessons to shape the current and future development of programs and policies within the DoD to achieve health protection for the military force.

Lesson One: Improved Communication

For the DoD, Gulf War illnesses and the anthrax vaccine controversy demonstrated the challenges of risk communication on issues involving the health of military members, veterans, and their families.[31,32] A central component of FHP must be improved health risk communication with military members and veterans. The instant availability of information, factual and otherwise, on the Internet means that the DoD must be proactive in providing accurate health information developed using the effective tools of risk communication.[33,34] Highly educated, all-volunteer troops expect detailed information on issues that affect their health. To maintain their military readiness, they also need accurate information on health hazards so that they can take appropriate actions to protect their health and seek appropriate care. Informed troops will be both healthier and more confident, which will improve morale and performance.

A major goal of FHP is to make military members partners in protecting their health by supplying them with the knowledge, skills, and resources needed to stay healthy during military service. Risk communication on health risks and preventive countermeasures is a required element before, during, and after deployments.[18–20]

One example of this component of FHP is the Health Risk Communication Office at the U.S. Army Center for Health Promotion and Preventive Medicine. Its mission is to develop risk communication products and skills throughout the U.S. Army and the DoD by (1) providing risk communication expertise and training, (2) delivering consultation to senior leadership, (3) developing health risk communication publications, and (4) responding to emergency situations. The Health Risk Communication Office sponsors training workshops on effective, evidence-based tools and techniques for risk communication in high-concern, sensitive, or controversial situations.[32]

Another communication initiative is the DoD Deployment Health Clinical Center at the Walter Reed Army Medical Center.[35] A primary mission of the clinical center is to develop and implement clinical risk communication strategies. Both veterans and clinicians need and want sound and timely information regarding deployment-related exposures and deployment-specific health outcomes. The center is developing a dynamic World Wide Web site to sustain a dialogue with those it is charged with protecting and their clinicians regarding exposures, diseases, health concerns, and medically unexplained symptoms.

An interagency initiative supporting improved communication is the Health Risk Communication Working Group of the Military and Veterans Health Coordinating Board.[30] This working group provides recommendations and coordination for the health risk communication efforts of the DoD, the VA, and the Department of Health and Human Services (HHS) for military members, veterans, deployed civilians, and their families. The working group's primary focus is on health risk communication before, during, and after combat operations and other major deployments.

Finally, the DoD has recognized that it must convey to the nation at large its intentions and programs regarding health hazards affecting military members and veterans. To substantially improve risk communication, the media will have to be better informed about military health care and the health impact of military service. Increased openness and communication by the DoD on these issues will in turn enhance the credibility of the military health system.

Lesson Two: Health Surveillance

Improved health surveillance and health risk assessment have to be a major component of an effective FHP program.[27] One of the main obstacles in resolving many of the Gulf War health questions has been the lack of individual data on predeployment health status, exposures during deployment, and health status assessment at the war's end. Without baseline and longitudinal health data, it has been difficult to determine the nature of health changes among Gulf War veterans.

Since the Gulf War, the DoD has issued policies for expanded health surveillance, especially during military deployments.[17–19] These FHP policies mandate routine health surveillance activities during all major deployments and during any deployment identified as posing a significant health risk to deployed personnel.[20,21]

One of the innovative aspects of improved surveillance has been the establishment of the Defense Medical Surveillance System.[36] In March 1997, the Assistant Secretary of Defense for Health Affairs directed the Army to establish a Defense Medical Surveillance System by transitioning from an Army-specific system. The Army Medical Surveillance Activity, U.S. Army Center for Health Promotion and Preventive Medicine, developed and now operates the new surveillance system. The Defense Medical Surveillance System contains up-to-date and historical data on diseases and medical events (e.g., hospitalizations, ambulatory visits, reportable diseases, human immunodeficiency virus tests, and health risk appraisals) and longitudinal data on personnel and deployments. The Defense Medical Epidemiology Database provides authorized users worldwide with real-time access through the Internet to user-defined queries of aggregate data in the surveillance system.

The Defense Medical Surveillance System provides the link between health surveillance data and specimens in the DoD Serum Repository, which contains more than 26 million frozen serum specimens from military personnel. As part of routine screening for human immunodeficiency virus infection, these specimens are routinely collected during military service and before major deployments and are available for analysis when new health questions arise.[37] Another innovation has been the registry of birth defects, which combines both active and passive surveillance.[38,39] Because women represent an increasing proportion of the military force, women's health issues have been an important consideration in developing FHP policy.[40]

One example of this component of FHP has been the unprecedented health screening for troops sent to the Balkans.[17] Troops were administered predeployment and postdeployment health questionnaires, serum samples are stored at the DoD Serum Repository, and data have been analyzed both in real time and in retrospect for health outcomes related to this deployment.[41,42]

Improved health surveillance will lead to more accurate risk assessment, which is particularly important during and after hazardous deployments. As demonstrated by unresolved questions regarding the health of Gulf War veterans, it is difficult to assess risks without accurate exposure data.[43] Although there has been much speculation about the effects of wartime exposures—oil well fire smoke, pesticides, chemical weapons, vaccines, and psychological stress—no single cause has been demonstrated to have produced widespread health problems among Gulf War veterans.[44] As part of FHP, preventive medicine, forward laboratory, and environmental surveillance teams are now a routine aspect of military deployments, and guidelines on short-term chemical exposures are available for deployed personnel.[41,45]

Lesson Three: Health Records

The full benefit of increased medical and environmental surveillance will be realized only if medical record keeping and data access are improved within the DoD.[27] An integrated information system, which collects all health and exposure data, translates data into useable formats, and makes them available worldwide, is needed. Consequently, a long-term goal of FHP is for each military member to have a comprehensive, lifelong, computer-based patient record of all illnesses and injuries, medical care, immunizations, and exposures to potential health hazards.[46] With standardized, readily-accessible medical and exposure data, health assessments of military personnel and veterans can be a routine process during future deployments and after military service. A computer-based record will enable more accurate assessments of the effectiveness of military health care, will help direct preventive services for military members, and will be useful for other agencies with responsibility for veterans' health.[47]

The Composite Health Care System II, the military health system's medical and dental clinical information system, is the major information technology enabler for FHP. This system will provide the computer-based patient record for every military member. Release 1, currently in on-site testing, includes capabilities for clinical and dental outpatient care, population health, preventive health care, ambulatory computer-based patient record, and regional clinical data repositories. It also will interface with existing health information systems and the Defense Enrollment Eligibility Reporting System. Release 2 will support general dentistry, worldwide availability of records, optometric services, automated clinical practice guidelines, and occupational health/industrial hygiene.

The Theater Medical Information Program, which is being developed to function in the operational environment, will gather individual medical information throughout a deployment. Because this program is integrated with Clinical Health Care System II, military medical personnel will be able to move readily from health care in a clinic or hospital to the field, and medical information from deployments will be more accessible for future clinical and health surveillance uses.

Lesson Four: Biomedical Research

Increased support for developing improved countermeasures to protect troops from a wide range of health risks has to be an important aspect of FHP. Major health hazards include infectious diseases, equipment and workplace hazards, environmental contaminants, heat and cold injuries, training and motor vehicle accidents, psychological stress, and chemical and biological warfare agents. The DoD maintains an extensive in-house biomedical research program, supports numerous research studies in civilian universities, and has dedicated funding and a new Defense Technology Objective to support FHP research requirements.[48]

In addition to these ongoing efforts, Congress authorized the DoD to establish a center devoted to "longitudinal study to evaluate data on the health conditions of members of the armed forces upon their return from deployment."[46] As a result, the DoD established two centers for the study of deployment health, one focusing on epidemiological research and another on clinical care.[35] In coordination with the VA and the HHS, these centers will actively investigate deployment-related health risks, the use of clinical practice guidelines to evaluate service members with health concerns and chronic symptoms after hazardous deployments, and new preventive and therapeutic modalities.

A major initiative of the Deployment Health Research Center is the Millennium Cohort Study, which involves an initial cross-sectional sample of 100,000 military personnel who will be followed prospectively. The Millennium Cohort Study is an integral part of a strategy to prevent health problems after future deployments and to maintain troop morale, confidence, and effectiveness. The Deployment Health Clinical Center is working with the VA and national and international experts to develop an evidence-based postdeployment health clinical evaluation program for the primary care setting.[49] Evidenced-based clinical practice guidelines also are in development to assist health care providers in screening, evaluating, and treating service members with health concerns after their return from deployments. Future FHP developments will be guided by the findings of intramural and extramural research on health threats and effective preventive and therapeutic measures for adverse health effects of military service and deployment.

Lesson Five: Interagency Coordination

Health policy and program development benefit from formal and continuous communication among federal agencies.[7] Before the Gulf War, there was no established body responsible for maintaining coordination among the agencies responsible for health issues of military personnel and veterans. In January 1994, the triagency Persian Gulf Veterans Coordinating Board was instituted, which established a model of interagency collaboration.[50] Presidential Review Directive 5 recommended an ongoing coordinating board to facilitate interagency coordination on issues and programs enhancing the protection of military personnel, veterans, and their families before, during, and after future deployments.[30]

In November 1998, President Clinton directed the Secretaries of Defense, Health and Human Services, and Veterans Affairs to form the Military and Veterans Health Coordinating Board. The coordinating board serves as a focal point for coordination across the three departments of the policies, practices, and procedures on health issues related to current and future military deployments. The board's mission was broadened to include coordination on Gulf War health issues and the monitoring and evaluation of the $155 million portfolio of research on illnesses among Gulf War veterans. For the DoD, a critical component of FHP is to build on this foundation of improved coordination among federal agencies.

Understanding Limitations

The DoD has applied these five lessons in the development and implementation of more effective health policy (Table I) and a wide range of new FHP programs (Tables II and III). However, the Institute of Medicine stressed that the DoD and the individual military services needed to accelerate implementation of the existing FHP policy and programs to demonstrate the importance that should be placed on protecting the health and well-being of military members.[27]

Rapid implementation of the FHP strategy is constrained by several factors. Actions to protect the health of military members must be guided by current medical knowledge. Full understanding of the health impact of service in a combat or deployed environment depends on better understanding of the causes and prevention of unexplained, chronic illnesses in the general population. Similarly, actions to protect deployed forces from diverse low-level environmental exposures in the uncontrolled environment of a deployment need to be guided by better knowledge of the effects of such exposures in the general population. The DoD also has to strike a delicate balance between improved health protection and interference with military operational capabilities. During combat, the collection of comprehensive medical and environmental data must not hinder war-fighting efforts or put noncombatants unnecessarily at risk.[5] The surest way to limit combat and noncombat casualties is to win a quick and decisive war, as in the Gulf War.

To ensure both better health and an unimpeded fighting force, the related components of FHP must become a fundamental and automatic aspect of modern military operations. Consequently, health care, health protection, and information requirements need to be anticipated in advance, and not once a conflict has begun, if questions about the health effects of service are to be answered after the fighting has stopped. Structural changes within the DoD must be made before critical events occur and must become part of the institutional culture. To establish that infrastructure for FHP and to instill a new way of thinking, the Secretary of Defense, the Joint Chiefs of Staff,

TABLE II

MAJOR DOD INITIATIVES ON FORCE HEALTH PROTECTION

1. Improvements in health risk communication and management, particularly for deployed military personnel and their families, including predeployment and postdeployment health education and increased use of combat stress control teams during hazardous deployments.
2. Assessment and documentation of the health status of both individual service members and the total force before and after hazardous deployments.
3. Improvement in the collection, analysis, and documentation of a wide range of health surveillance data during deployments, including the routine fielding of preventive medicine, forward laboratory, and environmental surveillance teams.
4. Initiation of large epidemiological studies by the DoD and the VA (e.g., the Millennium Cohort Study) to evaluate the long-term health consequences of future deployments.
5. Use of the DoD Serum Repository, which routinely stores serum samples serially collected from serving military personnel.
6. Establishment of a registry of birth defects using both active and passive surveillance.
7. Establishment of a baseline health database on all military recruits and improvements in the Defense Medical Surveillance System and medical record programs to improve monitoring and evaluation of hospitalizations, ambulatory visits, reportable diseases, immunizations, drug therapy, and other preventive health measures during military service.
8. Development of improved products to counter biological and chemical warfare agents.
9. Establishment of two DoD centers for the study of deployment health, one focusing on epidemiological research and the other on clinical care.
10. Formal, continuous coordination among the DoD, the VA, and the HHS on military and veterans' health issues through the Military and Veterans Health Coordinating Board.

TABLE III

SELECTED INFORMATION RESOURCES FOR DOD FORCE HEALTH PROTECTION

Program	Responsible/Hosting Activity	World Wide Web Site[a]
Force Health Protection Vision Document	J-4, The Joint Staff	http://www.dtic.mil/jcs/j4/divisions/mrd/fmp.htm
Defense Medical Surveillance System	Army Medical Surveillance Activity, USACHPPM	http://amsa.army.mil
DoD Center for Deployment Health Research	Naval Health Research Center	http://www.nhrc.navy.mil/
DoD Deployment Health Clinical Center	Walter Reed Army Medical Center	http://www.deploymenthealth.mil/
Military and Veterans Health Coordinating Board	Department of Veterans Affairs	http://www.mvhcb.gov/
Deployment Environmental Surveillance Program	USACHPPM	http://chppm-www.apgea.army.mil/desp/
Health Risk Communication Office	USACHPPM	http://chppm-www.apgea.army.mil/dts/hrc/
Composite Health Care System II	Clinical Information Technology Program Office	http://citpo.ha.osd.mil/
Theater Medical Information Program	Program Management Office	http://tmip.hirs.osd.mil/

USACHPPM, U.S. Army Center for Health Promotion and Preventive Medicine.
[a]Addresses are valid as of March 30, 2001. Some sites may be accessible only from computers with a ".mil" domain name.

and the theater commanders in chief are developing guidance and pursuing a unified FHP strategy.[16]

Essential Public Support

FHP cannot succeed through the efforts of the military alone. The support of elected officials and veterans groups is essential. Already, Congress has enacted legislation to extend health care to all combat veterans for 2 years after discharge or release from active military service.[51] The support of military and veterans service associations is critical because these organizations maintain extensive educational programs and can quickly communicate important information. Finally, the support and involvement of the civilian medical community will be indispensable in the implementation of FHP. Because of the size and influence of the two largest government-run health care programs, changes in DoD and VA health care often set a precedent for the civilian sector.[1] Similarly, policies, regulations, and laws developed to deal with the potential adverse effects of low-level environmental exposures, drugs, and vaccines in the civilian population will affect DoD and VA health care options and capabilities.

During the last decade, the DoD has received one unambiguous message: the perceptions and expectations of military families, veterans, and the nation at large have changed. No longer can the military health system just deliver a fit fighting force and care for battlefield casualties. The DoD also must (1) address the potential long-term health effects of military deployment, including combat, low-level environmental exposures, occupational risks, and psychological stress; (2) monitor the health of military members and look for potential adverse effects of drugs and vaccines; (3) develop more effective treatment regimens for chronic health problems; (4) develop methods to accurately quantify and track environmental and occupational exposures of individual military members; and (5) be a leader in health risk communication. Trust can be maintained only when the DoD is seen as having the foresight to prepare in advance and decisively take responsibility for the health of the military men and women of the 21st century.

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Attachment 2

INFORMATION FOR MEMBERS OF CONGRESS
March 12, 2003

Department of Defense Force Health Protection

On March 13, 2003, at 11:30, the Pentagon will conduct a press briefing on Force Health Protection and Deployment Health. Below is information that may be discussed during the briefing.

Key Messages:

- The health and safety of our people are our top concerns.
- The Military Health System provides service members a continuum of care from accession to separation.
- The force health protection program and deployment health surveillance meet the intent of the Congressional mandate to protect the health of those who serve.
- Deployment health surveillance offers the mechanisms to know individual troop health status pre and post deployment.

Mission:

- To ensure each service member has current health maintenance medical and dental examinations, has been appropriately screened for vision and hearing, and is properly immunized prior to deployment.
- To ensure records of all health care services and events that may affect the health of deployed service members are retained and maintained for future access.
- To provide appropriate referral for follow-up medical care based on individual health assessments and a review of deployment health records.

Discussion:

The Department of Defense (DoD) has applied medical lessons learned from the Gulf War to help protect the health of military personnel before, during, and following deployments.

- The DoD has developed and implemented a Force Health Protection strategy that promotes and sustains the health of service members prior to deployment, protects personnel from disease and injury during deployment, and provides comprehensive follow-up treatment for deployment-related health conditions.

- The DoD has instituted a deployment health surveillance program that includes pre-deployment and post-deployment health assessments which validate individuals' medical readiness to deploy and address health concerns upon their return, along with improved occupational and environmental health surveillance programs for protecting service members' health during deployment.

- The DoD has established three deployment health centers–for health surveillance, health care, and health research–that focus on the prevention, treatment, and understanding of deployment-related health concerns.

- The DoD has improved health risk communication through the provision of regionally-specific medical intelligence, environmental risk assessments, medical threat briefings, pocket-sized health guides, and deployment-focused web sites.

- The DoD has coordinated with the VA to address deployment-related health concerns of both service members and veterans by jointly developing a Post-Deployment Health Evaluation and Management Clinical Practice Guideline and by electronically sharing medical information through the Federal Health Information Exchange.

- The DoD has taken steps to improve deployment-related medical record keeping by developing the Composite Health Care System II (CHCS II) and the Theater Medical Information Program (TMIP), and by expanding the electronic tracking and centralized collection of immunization data.

- In the past few months DoD has developed and implemented the Joint Medical Work Station. This is the most recent addition to our capability to monitor the health status of our deployed forces. Using the Force Health Protection portal to our classified system, DoD now has the electronic capability to capture and disseminate near real-time information to commanders about theater medical data, patient status

Related Facts:

- During the Gulf War, an assessment of a service member's health prior to and at the conclusion of deployment was not systematically accomplished, making it difficult to identify changes in health status which could be attributable to events that occurred during deployment. The Institute of Medicine (IOM) subsequently recommended, and Congress directed, pre- and post-deployment medical examinations to better assess the health of deployed military personnel. A DoD Directive and a DoD Instruction on joint medical surveillance were published in August 1997 and included broad direction on accomplishing pre- and post-deployment health screening assessments.

- In October and December 1998, respectively, DoD (Health Affairs) and the Joint Staff (Medical Readiness) published policy memoranda on deployment health surveillance, providing more detailed implementation guidance and specific direction on the use of standardized forms for health assessments. The Joint Staff published its concept of Force Health Protection in 1999, defining three pillars: 1) a healthy and fit force; 2) casualty prevention; and 3) casualty care and management. DoD(HA) updated its deployment health surveillance policy in October 2001 to specifically address health assessments for deploying Reserve component personnel. In February 2002, the Joint Staff (J4-MRD) published updated policy that provided standardized procedures for assessing pre- and post-deployment health and reporting diseases and non-battle injuries (DNBI), while adding guidance for conducting and reporting occupational and environmental health risk assessments.

- Following the Gulf War, the VA and the DoD established health examination registries in order to evaluate veterans and service members for illness potentially related to their service in the war. In 1998 and 2000, the Institute of Medicine recommended that post-deployment

health care be re-focused to the primary-care level in order to broaden and enhance the continuity of care, foster ongoing therapeutic relationships between providers and patients, and extend this health care to encompass problems from subsequent deployments. The DoD and the VA have designed, tested, and implemented a guideline for the provision of post-deployment health care. The guideline provides a structure for the evaluation and management of service members and veterans with deployment-related concerns. It also provides access to expert clinical support to physicians and other health care professionals for patients with difficult symptoms and illnesses, and may provide a useful platform for research into post-deployment health concerns.

- The Defense Medical Surveillance System (DMSS) has been established under the Army Center for Health Promotion and Preventive Medicine (CHPPM) to provide improved DoD joint health surveillance capabilities. Operated by the Army Medical Surveillance Activity (AMSA), the DMSS database contains historical and up-to-date data on diseases and medical events (e.g., hospitalizations, ambulatory visits, and reportable diseases) as well as longitudinal data on personnel and deployments.

- The DoD now routinely deploys preventive medicine, environmental surveillance, and forward laboratory teams in support of worldwide operations. For example, CHPPM conducts pre- and during-deployment environmental health intelligence preparation of the battlefield, and performs extensive environmental assessments of operationally-selected staging areas and base sites. CHPPM also supplies environmental sampling materials for deployed forces, conducts operational risk management estimates for field commanders, and develops pocket-sized "staying healthy" guide books for deployed service members.

- Improved deployment health protection measures are being designed to counter an increasingly broad range of threats. Such measures include the fielding of new biological and chemical warfare agent detection and alarm systems; the operational testing of integrated electronic medical surveillance and emergency response networks; current vaccines and anti-malarial drugs; and research on the next generation vaccines and pharmaceuticals.

- In addition to pre- and post-deployment health assessments, the military medical departments incorporate routine health and medical readiness appraisals to ensure service members meet and maintain health standards. A complementary effort is underway to develop standardized DoD-wide individual medical readiness indicators.

- One important health surveillance initiative prompted by post-Gulf War health issues is the monitoring of birth defects among DoD beneficiaries through establishment of a birth defects registry. Another is the use of the DoD Serum Repository for routine and pre-deployment collection and storage of serum specimens, which are subsequently available for analysis regarding military- and deployment-related health concerns.

- The Millennium Cohort Study is a comprehensive DoD health research initiative that responds to concerns about whether deployment-related exposures are associated with post-deployment health outcomes. A cross-sectional sample of 100,000 military personnel and veterans will be studied prospectively over a 21-year period.

- Tracking of immunizations was directed by DOD Instruction 6490.3, Implementation and Application of Joint Medical Surveillance for Deployments (7 August 1997). Electronic tracking of immunizations was initially implemented for the Anthrax Vaccine Immunization Program in 1998, using Service-specific automated systems. Efforts are underway by the Services to electronically track all immunizations and to centralize collection of immunization data for surveillance and research purposes.

- The Services have begun implementation of health surveillance and computerized medical record keeping during deployments, allowing for surveillance of health events as well as documentation of health care and countermeasures utilized during deployment. The Theater Medical Information Program, which is currently undergoing testing, will gather individual medical information throughout operational deployments. This information will help to document deployment-related health problems and be shared with the VA to facilitate continuity of care for veterans.

Frequently asked question:

Q. I've heard that DoD isn't performing health exams required by law. I'm also told that DoD isn't taking blood samples either. Is this true?

A. In 1997, Congress directed DoD to establish a system to assess the health status of deployed service members. The elements of the system were to include pre-deployment medical examinations, post-deployment medical examinations, and maintenance of records of these examinations and of all health services that were received and all potentially health-impacting events that occurred during the course of a deployment. A quality assurance program was also supposed to be established. Direction for this health assessment was driven by post-Gulf War health concerns.

In response, the DoD instituted a deployment health surveillance program that includes pre-deployment and post-deployment health assessments which validate individuals' medical readiness to deploy and address health concerns upon their return. Blood samples are taken within 12 months prior to deployment and after return. Improved occupational and environmental health surveillance programs protect service members' health during deployment. This information is stored and maintained in the event that it is needed following deployment.

These efforts are part of DoD's new force health protection strategy that promotes and sustains the health of service members prior to deployment, protects personnel from disease and injury during deployment, and provides comprehensive follow-up treatment for deployment-related health conditions.

For additional information and to request briefings, please contact LTC Henselman, Office of the Assistant Secretary of Defense (Health Affairs), 703-681-1698

Attachment 3

To: DEFENSE-PRESS-SERVICE-L@DTIC.MIL
Subject: Pentagon Has New Strategy for Monitoring Deployment Health Care

By Sgt. 1st Class Doug Sample, USA
American Forces Press Service

ALEXANDRIA, Va., Feb. 11, 2003 -- The Defense Department has changed the way it will track and assess the health care given military personnel before, during and after deployments, a senior Pentagon health official said today.

DoD's new strategy emphasizes health care surveillance of deployed personnel, said Dr. Michael Kilpatrick, deputy director, Deployment Health Support Directorate, Office of the Deputy Assistant Secretary of Defense for Force Health Protection and Readiness.

Officials, he said, want no repeat of 1991 Gulf War health care problems, referring to widespread instances reported of deployed personnel returning home with incomplete and poorly maintained medical records and improperly monitored illnesses.

Kilpatrick said DoD is concerned with taking care of the health of its military personnel and their families. "To do that optimally, we need to provide preventive care," he said. "And if a service member becomes ill or is injured, we need to provide treatment for them."

After a deployment, he added, personnel need to know that the Department of Defense will provide them with care for any medical problem they may develop.

This Force Health Protection strategy is designed to help the department track service members' diseases and injuries and to provide them comprehensive follow-up treatment for deployment-related health conditions, he said.

Kilpatrick directs the DoD effort to protect the health of deployed service members He noted there was no unique screening being done prior to deployment during the Gulf War. "If you were on active duty, you were generally assumed to be deployable," he said.

Now, he said, the Defense Department plans to see that force health is closely monitored through a series of medical assessments before and after deployment and that health concerns are documented and closely monitored.

Kilpatrick said the pre- and post-deployment health assessment is a brief series of questions that look to see if troops are physically and psychologically prepared to deploy. The forms can be found on DoD's deployment Web site [http://www.deploymentlink.osd.mil] at www.deploymentlink.osd.mil.

"(The assessment is) an opportunity for them to bring up any medical conditions that occurred to them in the last several months or in the period since their last physical examination. It's a quick check to make sure they are ready to go," he said.

The health assessments are done on paper and checked by a physician "to see if there are any changes in service members' health or condition that may require attention before or after they deploy," Kilpatrick said. Later, the forms are sent to Walter Reed Army Medical Center in Washington, D.C., where they are scanned electronically and retained for analysis.

The Defense Department has established three deployment health centers, one each for health surveillance, health care and health research. They focus on the prevention, treatment and understanding of deployment-related health concerns. Two centers are at Walter Reed; the third is at the Naval Health Research Center in San Diego.

The department will improve deployment-related medical record keeping through its Composite Health Care System II and the Theater Medical Information Program, which is still being tested.

Kilpatrick said the two systems will collect immunization data electronically through a centralized data bank, along with computerized medical files currently being gathered on deployed military personnel from all the services in order to document deployment-related health problems.

He noted that Special Forces soldiers deployed to remote areas can now use handheld computers to gather and store medical data on soldiers and then later transmit the data to rear operations headquarters.

Still, pre- and post-deployment health assessments and electronic record keeping are only part of the force protection strategy. Kilpatrick said broader initiatives to protect deployed personnel are expected, and more research is being done.

The plan includes improving health risk communication and medical intelligence; providing environmental risk assessments to commanders on the battlefield; giving medical threat briefings; and distributing pocket-sized health guides to deployed personnel. Kilpatrick's office also has created deployment-focused Web sites, such as DeploymentLINK.

In addition, the Defense Medical Surveillance System has created a database on diseases military personnel may encounter in deployed areas. Another plan is to deploy preventive medicine and environmental surveillance teams to forward-deployed areas to evaluate health threats on the battlefield.

Another measure calls for improved biological and chemical warfare detection and alarm systems. And the Pentagon is researching current vaccines and anti-malarial drugs and exploring next-generation vaccines and drugs, he said.

Kilpatrick said the new program shows how seriously DoD regards force health protection.

"We've learned a great deal from deployments over the past 12 years since the Gulf War and we intend to use those lessons to benefit those who serve today, Kilpatrick concluded. "That's what this program is all about."

NOTE: This is a plain text version of a web page. If your e-mail program
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http://www.defenselink.mil/news/Feb2003/n02112003_200302112.html
Any photos, graphics or other imagery included in the article may also
be viewed at this web page.

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Visit the Defense Department's Web site for the latest news
and information about America's response to the Sept. 11, 2001,
terrorist attacks and the war against terrorism: "Defend America"
at http://www.DefendAmerica.mil.

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Visit the "Department of Defense Homeland Security" Web site
at http://www.defenselink.mil/specials/homeland/ to learn more
about the Department of Defense role in homeland security.

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Attachment 4

Information Paper

Military Medical Record Keeping During and After the Gulf War

- Following the return of American military men and women deployed to Southwest Asia during Operations Desert Shield/Desert Storm, illnesses were reported that may have been related to service in the Gulf War. Military medical records from this deployment have not provided substantial support in the search for causes of, and contributing factors to, these illnesses among Gulf War veterans.

- Military medical recordkeeping policies at the time of the Gulf War tended to be service-specific and published by the respective military Surgeons General. During the war, the Army and the Air Force deployed an abstracted record at the time of mobilization instead of the individual health record. Navy and Marine Corps personnel deployed with full individual health records. The Department of Defense issued supplemental guidance on the documentation of immunizations that were investigational or required some measure of operational security.

- Post-Gulf War medical recordkeeping policy continues to be made by each military service for routine activities in their medical treatment facilities. The establishment of an abstracted record for deployments is now standard policy for Army and Air Force personnel. Navy and Marine Corps personnel continue to deploy with full individual health records.

- To better understand what happened with medical recordkeeping and to provide some additional insight on what can be done to improve it, the Office of the Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses prepared a paper that examines military medical recordkeeping policies and practices during and after the Gulf War, as well as initiatives for the future. The paper discusses the major recordkeeping policies in place at the time of the war, the changes and additions to these policies since that time, and the designs for the future.

- The Department of Defense(Health Affairs) and the Joint Staff are focusing on force health protection and the documentation of medical surveillance activities in support of continuing operational deployments in the Balkans and Southwest Asia. The services now use standardized pre- and post-deployment health assessments and they are moving towards automated immunization tracking systems. They are also engaged in efforts to develop uniform records management and disposition policies during deployments.

- Cooperation has increased among the Department of Defense, the Department of Veterans Affairs, and the National Archives and Records Administration on issues involving the transfer and storage of medical records. As part of an initiative to identify and facilitate veterans' access to their Gulf War inpatient records, staff from the special assistant's office searched through records at the National Personnel Records Center in St. Louis, the permanent storage site for all records

of hospitalizations in military medical facilities. The team located approximately 28,000 inpatient records of deployed Gulf War servicemembers and entered the information into a database. Veterans can call toll-free at(800) 497-6261 for a database search and assistance in obtaining copies of their records.

- The groundwork is being laid for the development and implementation of an electronic medical information carrier, a computer-based patient record system, and a theater medical information program. These are viewed by the Department of Defense as technological solutions to both the medical recordkeeping deficiencies associated with the Gulf War and the presidential mandate to create a new force health protection program with a comprehensive, life-long medical record for each military servicemember.

- More detailed information on medical records and other research projects of the Office of the Special Assistant can be accessed on the Internet at GulfLINK.

Attachment 5

GAO
Accountability · Integrity · Reliability

Highlights

Highlights of GAO-05-632, a report to Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform

DEFENSE HEALTH CARE

Improvements Needed in Occupational and Environmental Health Surveillance to Address Immediate and Long-term Health Issues

Why GAO Did This Study

Following the 1991 Persian Gulf War, research and investigations into the causes of servicemembers' unexplained illnesses were hampered by a lack of data, including inadequate occupational and environmental exposure data. In 1997, the Department of Defense (DOD) developed a military-wide health surveillance framework that includes occupational and environmental health surveillance (OEHS)—the regular collection and reporting of occupational and environmental health hazard data by the military services. GAO is reporting on (1) how the military services have implemented DOD's policies for collecting and reporting OEHS data for Operation Iraqi Freedom (OIF), and (2) the efforts under way to use OEHS reports to address both short- and long-term health issues of servicemembers deployed in support of OIF.

What GAO Recommends

GAO is making recommendations to the Secretary of Defense that are aimed at improving the collection and reporting of OEHS data during deployments and at evaluating OEHS risk management activities. GAO is also recommending that the Secretaries of Defense and Veterans Affairs (VA) jointly develop a federal research plan to better address the potential long-term health effects of deployment in OIF.

www.gao.gov/cgi-bin/getrpt?GAO-05-632.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Marcia Crosse at (202) 512-7119 or Bonnie Anderson at (404) 679-1900.

What GAO Found

Although OEHS data have been collected and reported for OIF, as required by DOD policy, the deployed military services have used different data collection methods, and have not submitted all of the OEHS reports that have been completed. Data collection methods for air and soil surveillance have varied across the services, for example, although the services have been using the same monitoring standard for water surveillance. Variations in data collection have been further compounded by different levels of training and expertise among service personnel responsible for OEHS. For some OEHS activities, a cross-service working group has been developing standards and practices to increase uniformity of data collection among the services. Although the deployed military services have been conducting OEHS activities, they have not submitted all of the OEHS reports that have been completed in OIF, which DOD officials attribute to various obstacles, such as limited access to communication equipment to transmit reports for archiving. Moreover, DOD officials did not have the required consolidated lists of all OEHS reports completed during each quarter in OIF and therefore could not identify the reports they had not received to determine the extent of noncompliance.

DOD has made progress in using OEHS reports to address immediate health risks during OIF, but limitations remain in employing these reports to address both immediate and long-term health issues. OEHS reports have been used in OIF as part of operational risk management activities intended to identify and address immediate health risks and to make servicemembers aware of the health risks of potential exposures. While these efforts might be helpful in reducing health risks, DOD has no systematic efforts to evaluate their implementation in OIF. For addressing potential long-term health effects related to occupational and environmental exposures, DOD's centralized archive of OEHS reports for OIF has limitations. For example, access to the centralized archive has been limited due to the security classification of most OEHS reports. Furthermore, it will be difficult to link most OEHS reports to individual servicemembers' records because not all data on servicemembers' deployment locations have been submitted to DOD's centralized tracking database. For example, none of the military services submitted location data for the first several months of OIF, and the Marine Corps has provided location data only by country. To address this problem, the military services have made efforts to include OEHS summaries in the medical records of servicemembers deployed to specific locations in OIF. Finally, according to DOD and VA officials, no federal research plan has been developed to evaluate the long-term health of servicemembers deployed in support of OIF, including the effects of potential exposures to occupational or environmental hazards.

Attachment 6

LEVEL 2 - 6 OF 7 STORIES

April 5, 2004 Monday

SECTION: INTERNATIONAL NEWS

DISTRIBUTION: Europe; Britian; Scandinavia; Middle East; Africa; India; Asia; England

LENGTH: 459 words

HEADLINE: Returning GIs tested for **exposure to depleted uranium** in Iraq

DATELINE: FORT DIX, **New Jersey**

BODY:

The U.S. Army is conducting medical tests on a handful of GIs who complained of illnesses after reported **exposure to depleted uranium** in Iraq.

Up to six soldiers from a National Guard unit based in Orangeburg, New York, have undergone exams at Fort Dix, and three of them remain there under observation, Fort Dix spokeswoman Carolee Nisbet said Monday.

"We are following up on this. We are on top of it. It's not something that has fallen by the wayside," she said.

Of nine members of the unit examined by a doctor at the request of the New York Daily News, four had "almost certainly" inhaled radioactive dust from spent U.S. artillery shells containing depleted uranium, the newspaper reported Monday.

Six of the nine contacted the newspaper after unsuccessfully appealing to the Army for testing because of unexplained illnesses, the Daily News reported.

The soldiers complained of headaches, fatigue, shortness of breath, nausea, dizziness, joint pain and unusually frequent urination.

The exposures apparently occurred last summer when the 442nd Military Police Co. served in Samawah, Iraq. Most members of the unit, which includes many New York police officers, firefighters and prison guards, remain in Iraq.

Military medical officials from Walter Reed Army Medical Center in Washington and the Army's Center for Health Promotion and Preventive Medicine conducted testing at Fort Dix, Nisbet said.

The Army would not identify the soldiers or say whether testing revealed contamination or illness.

All National Guard and Reserve soldiers mobilized through Fort Dix receive physical exams upon their return from overseas, Nisbet said. The soldiers who complained of ailments asked for and received a second round of evaluations, she said.

Depleted uranium, which is left over from the process of enriching uranium for use as nuclear fuel, is an extremely dense material that the U.S. and British militaries use for tank armor and armor-piercing weapons. It is far less radioactive than natural uranium.

According to a Depleted Uranium Information Web page posted by the Army, depleted uranium recently provided to the Pentagon by the U.S. Department of Energy contained trace amounts of contaminants like neptunium, plutonium, americium, technitium-99 and uranium-236.

"These contaminants in (depleted uranium) add less than one percent to the radioactivity of (depleted uranium) itself," the Web page said.

"Medical scientists consider this insignificant."

Army spokeswoman Cynthia O. Smith would not comment Monday on whether other troops have complained of similar ailments or whether the Pentagon would take precautions aimed at preventing future exposure.

On the Net:

http://www.deploymentlink.osd.mil/du-library/

LOAD-DATE: April 6, 2004

LEVEL 2 - 2 OF 7 STORIES

States News Service

April 9, 2004 Friday

LENGTH: 459 words

HEADLINE: SEN. SCHUMER MEETS WITH NEW YORK ARMY NATIONAL GUARD MEMBERS BACK FROM IRAQ SUFFERING FROM **DEPLETED URANIUM EXPOSURE**

BYLINE: States News Service

DATELINE: WASHINGTON

BODY:
The office of Sen. Charles E. Schumer, D-N.Y., issued the following press release:

Sen. Charles E. Schumer met with the soldiers from the 442nd Military Police Company based in Rockland County who have tested positive for **depleted uranium.** At the meeting, which was requested by the soldiers, Schumer promised to take the Guardsmens' concerns to Secretary of Defense Rumsfeld. Schumer also asked Rumsfeld to ensure that all GIs who served or are currently serving in or near the Iraqi town where 442nd was based get tested and treated for **depleted uranium exposure.**

"When it takes an expose by a newspaper to prod the Army to act, clearly someone's dropped the ball," Schumer said. "But I think we all want to look forward to ensure that our other men and women in uniform serving in the same area get some benefit from what the men of the 442nd went through. The Pentagon still has the chance to do the right thing and give our soldiers the tests they deserve and any treatment they need as quickly as possible."

News reports over last weekend said that four of nine soldiers from the 442nd tested positive for depleted uranium. The members of the company became sick last summer while stationed in the Iraqi town of Samawah. They were examined and tested at the request of the Daily News by an independent uranium expert who concluded that four had "almost certainly" been exposed to radioactive dust released by depleted uranium shells fired by American troops.

In August, Dutch soldiers arrived in Samawah to replace the Guardsmen. Dutch press reports said that those soldiers swept the area around the train depot with Geiger counters and had found high radiation levels. In February, after Japanese troops moved into Samawah, a Japanese journalist with a Geiger counter reported finding radiation readings 300 times higher than background levels. But several of the soldiers in the 442ndsaid that doctors at Walter Reed Army Medical Center in Washington and Fort Dix in **New Jersey** refused to test them for exposure for months.

Depleted uranium, a waste product of the uranium enrichment process, has been used by the U.S. and British military for more than 15 years in some artillery

shells and as armor plating for tanks. It is twice as heavy as lead. Tanks hit by depleted uranium shells are the biggest sources of battlefield radioactivity because when depleted uranium penetrators hit a target and explode, a fine aerosol of radioactive dust is formed.

Most members of the 442nd are still overseas. The Company is made up mostly of New York police officers, firefighters and correction officers. Today's meeting with Schumer took place in Fresh Meadows, Queens, at the home of Sergeant Jerry Ojeda.

HTZW nmbn 040410-30583 KMKM

LOAD-DATE: April 12, 2004

Attachment 7

Slide 1

OPERATION IRAQI FREEDOM (OIF) MANAGEMENT OF DEPLETED URANIUM EXPOSURES

R. Craig Postlewaite, DVM, MPH
Senior Analyst, Force Health Protection, DoD FHP&R
Deployment Health Support Directorate

Hello, I am Dr Craig Postlewaite, Senior Environmental Health Analyst for the Department of Defense Deployment Health Support Directorate. I am here to speak with you about the assessment and medical management of depleted uranium exposures acquired during Operation Iraqi Freedom and in support of the Post-Deployment Clinical Practice Guideline. I will cover the following topics during this presentation:

Slide 2

- Background: what is DU, where do you find it, possible exposures, and potential health risks;
- OIF DU Medical Management Policy (Health Affairs Policy 03-012) and why it was issued;
- Specific policy requirements to include
  - the identification of possibly exposed personnel;
  - exposure assessments;
  - collection and processing of depleted uranium bioassays;
  - analysis of embedded fragments;
  - archiving of records,
  - case management, to include the referral of selected individuals to the VA DU Medical Follow-up Program; and
- Where to go for additional information and questions

Slide 3

Depleted uranium or DU, as it commonly called, is derived from natural uranium. Natural uranium is ubiquitous in the environment. Virtually all of us have some naturally occurring uranium in our bodies due to small amounts of uranium present in much of the food and water we consume. DU is what remains of uranium ore after the more highly radioactive isotopes are removed when making uranium into nuclear weapons or nuclear fuel. DU is about 40% less radioactive than natural uranium.

Slide 4

During the 1991 Gulf War, the US military used depleted uranium in combat weapons for the first time. DU is used in the manufacture of armor-piercing munitions capable of disabling enemy tanks and other weapons systems. It's high density and self-sharpening qualities make it better than other available materials for penetrating armor. The same properties make it ideal for use as armor on our Abrams tanks to provide added protection for its crews; DU armor, however, is not used on Bradley Fighting Vehicles. Most of our service members have little, if any, exposure to DU, especially to forms, which might be deposited internally in their bodies, in which case it could result in some concern. There are several battlefield scenarios, including friendly fire accidents, arising in the fog of war that may result in DU exposures to service members.

Slide 5

First of all, DU that is not taken internally into the body presents virtually no health risk. For example, individuals who handle unexploded DU munitions or who work inside Abrams tanks that are equipped with DU armor are not at any significant risk from DU's low-levels of radioactivity or heavy metal toxicity. Similarly, even if DU remained in contact with skin for long periods of time, the external radiation dose

would not be great enough to produce any tissue damage other than some mild skin irritation resulting in some reddening of the skin.

Slide 6

When DU projectiles penetrate armor, the projectiles self sharpen and produce small shards. The projectiles obviously can kill or wound the individuals in those vehicles, but the shards can also burst into flames resulting in small dust-like particles that can be inhaled and that can contaminate wounds. Rescue workers or others who enter contaminated vehicles could inhale or ingest these dust-like particles when transferred from hand to mouth.

Slide 7

Getting back to internal deposition, there are some theoretical health risks that might be anticipated as a result of internal deposition of DU. Kidney damage resulting from DU's heavy metal toxicity is believed to be the most probable complication. The medical community, however, has yet to see any adverse health effects associated with internal exposure. Even among our 1991 Gulf War veterans who still have embedded DU fragments or who inhaled DU particulates, we still have not observed any medical problems associated with their DU exposures. Because we are not completely confident as to whether longer-term exposures might result in illness, a number of our most highly exposed veterans from the Gulf War continue to be monitored at the Veterans Affairs Medical Center in Baltimore, Maryland.

Slide 8

To help identify those individuals, who may have had internal exposures to DU during Operation Iraqi Freedom, we have the benefit of a urine bioassay to verify whether internal DU exposure has occurred. This urine bioassay determines whether uranium is being excreted and the proportion, if any that is contributed by DU.

On May 30, 2003, Dr William Winkenwerder, Jr., Assistant Secretary of Defense for Health Affairs, issued Health Affairs Policy 03-012, "Policy for the Operation Iraqi Freedom Depleted Uranium (DU) Medical Management."

The policy addressed to the Services and to the Joint Staff includes detailed guidance on the use of DU urine bioassays for those who may have been internally exposed to DU in order to detect and quantify those exposures.

Slide 9

This policy was issued for a number of reasons:

- To document any significant internal DU exposures through the use of biomonitoring,
- To quantify radiation dosages due to internalized DU,
- To identify individuals with embedded fragments or other significant exposures for possible referral to the VA's DU Medical Follow-up program, and finally
- To ensure that DoD's commitment to address the health concerns of our redeploying service members is fully satisfied.

The policy is tied in closely with the completion of the Post-Deployment Health Assessments, DD Form 2796, and use of the DoD/VA Post-Deployment Health Clinical Practice Guideline.

Slide 10

Regarding policy requirements, the policy requires the Services to identify all OIF service members who may have had possible internal exposures to DU. One important means of identification is review by healthcare providers of the DD Form 2796 Post-Deployment Health Assessment Form to identify those who have concerns about possible DU exposures. The Services also are to review operational

information to identify events involving the use of DU munitions including friendly fire accidents, fires involving DU materials, or other activities that may have led to the inhalation or possible ingestion of DU by service members. The units involved and, subsequently, the specific individuals can then be identified.

Second, healthcare providers must perform qualitative DU exposure assessments, which include a review of the operational events that may have led to possible DU exposures, with those who are referred to them.

Slide 11

Third, following the exposure assessment, healthcare providers will order urine DU bioassays, which I will say more about momentarily, for certain individuals with possible internal exposures.

Fourth, those with significant levels of DU exposure as shown by their urine bioassays will be offered referral to the VA DU Medical Follow-up Program so that their DU levels and long-term health can be closely monitored for changes.

Finally, healthcare providers must effectively communicate with both the individuals being evaluated and with their families throughout this process using health risk communication methods and principles. This will ensure that the steps being taken are clear and that there are no remaining questions pertaining to the bioassay or to the interpretation of the results. It is very important that these individuals and their families be provided sufficient time to have their concerns and questions addressed fully.

Slide 12

As described in Health Affairs Policy 03-012, the DU exposure assessments determine the likelihood that individuals may have been exposed internally to DU. When referred to healthcare providers for an exposure assessment, healthcare providers along with the person referred will complete the DoD DU Exposure Questionnaire and the Health Survey, which are now available as DoD Test Forms. In the near future these two test forms will be overprinted on a single Standard Form SF-600. These forms can be downloaded from the DoD Deployment Health Clinical Center (DHCC) website, http://www.PDHealth.mil. The healthcare provider along with the individuals being evaluated will review the DU Exposure Questionnaire and any other supporting information. Individuals considered to be possibly exposed will be assigned to one of the three DU exposure categories, either level I, II, or III.

All individuals categorized as level I or level II exposures will receive urine DU bioassays. Urine DU bioassays are not required for those with level III exposures.

Slide 13

Level I exposures are assigned to all individuals who were believed to be struck by DU munitions or DU armor fragments. In addition, it includes those who were in, on, or near, that is less than 50 meters from an armored vehicle at the time it was struck by munitions believed to contain DU and also to first responders who entered these vehicles to render aid to the crewmen.

Level II exposures include those, other than first responders, who routinely entered vehicles possibly containing DU residues to perform maintenance and recovery operations, intelligence operations, or battle-damage assessments. This exposure level also includes individuals whose occupation required them to fight fires involving DU containing materials.

Bioassays for level I and level II exposures should occur as soon as possible and preferably within 180 days of their most recent DU exposures in order to obtain the best possible measurements. However, if more than 180 days have elapsed since exposure, bioassays must still be accomplished.

Slide 14

Level III exposures are those which are incidental in nature. Incidental DU exposures would not likely result in any significant uptake of DU into the body. Examples of level III exposures include infrequently and for short periods entering or climbing on or into battle-damaged vehicles or breathing smoke from fires involving DU materials. Bioassays are not required for this level unless a healthcare provider chooses to perform one based on medical indications or upon request from individuals possibly exposed in this manner.

Slide 15

As I stated, all individuals with level I or level II DU exposures will undergo a bioassay. The Health Affairs Operation Iraqi Freedom DU Medical Management Policy outlines the procedures to follow for the collection and processing of urine samples for the analysis of DU. Additional information is available on the DHCC website. The specific requirements and timelines are as follows:

The purpose of the initial 24-hour urine specimen is to obtain data to estimate the total amount of soluble uranium internalized as well as the fraction, if any, contributed by DU. This initial urine collection must begin not earlier than 24 hours after exposure and, if possible, not later than 180 days after exposure. A complete 24-hour sample requires the collection of all urine excreted during that period. Urine collection should begin after the first morning void on the first day of collection and end after the first morning void the following day.

Slide 16

For individuals still in theater and where the 24-hour collection may not be feasible, collect and process a 120-milliliter first void, spot urine sample; depending on the result, the laboratory may request that a 24-hour sample be taken at a later time. Should individuals present after 180 days post-exposure, proceed with the collection and analysis of this initial 24-hour urine sample, though it may be more difficult to accurately calculate an individuals total uranium exposure.

If collection of the initial 24-hour sample began between 24 and 48 hours after exposure and was completed as a full 24-hour collection, another 24-hour urine sample should be collected 7-10 days after exposure. A 7-10 day urine specimen is useful for monitoring the rate of uranium excretion and provides additional data to estimate the amount of insoluble uranium internalized. If collection of an initial sample began more than 48 hours following exposure, then skip the 7-10 day sample, unless it is needed for clinical management.

Slide 17

Process urine specimens for total uranium analysis and also for DU isotopic analysis through laboratories with established analytical capabilities and quality assurance/quality control procedures that are approved by the Service Surgeons General. The laboratory should be contacted for shipping instructions. Each laboratory request for uranium analysis will include name, SSN, age, sex, height, and weight of the individual; dates of exposure; the date and the start and stop times of urine collection. The sample must be identified as an initial 24-hour, initial spot, 7-10 day sample, or a repeat sample.

Slide 18

The request should specify that a urine total uranium and uranium isotopic analysis be run and that the results be normalized to urine creatinine result with results expresses as nanograms of uranium/gm of urine creatinine.

The request that results must be normalized to the volume of urine with results expressed as nanograms of uranium per liter of urine is also needed. A urine creatinine test must be requested on an aliquot of

urine taken from the entire sample. It is permissible for the collecting lab to do the urine creatinine test if they have the capability. If this is the case, those results must be forwarded along with the urine specimen. Isotopic analysis is the specific test used to identify the fraction of the urine uranium contributed by DU. Copies of the exposure assessment and health survey forms must accompany the urine samples.

Slide 19

Send any embedded fragments removed from those injured by fragments to an appropriate laboratory for analysis of the metal composition and ensure the results are entered into the individual medical records. Analysis helps verify exposure to DU as well as to identify the composition of any other fragments that may pose a potential health risk. Providers should discourage the keeping of fragments or other souvenirs containing DU by the service members.

Slide 20

Individual medical records should contain exposure assessment questionnaires, lab results, referral consults, and narrative summaries from follow-up care with copies of such documentation forwarded to the DoD Deployment Health Clinical Center for archiving. The Deployment Health Clinical Center is the central DoD archiving location for both active duty and reserve component for all patient information related to DU exposure, testing, and follow-up. DHCC will ensure these personnel receive any medical follow-up indicated. Service Labs and the Baltimore VA Medical Center will forward all DU-related medical documentation to DHCC for archiving following completion of DU-related health procedures.

Slide 21

The Baltimore VA Medical Center has had an on-going long-term monitoring program for level I or level II exposed service members since 1993. DoD has arranged for the VA to offer enrollment of additional DoD service members with significant levels of DU exposure into their DU follow-up program. Those with level I exposures with retained DU fragments or other level I or level II exposures whose urine DU bioassays show significant exposures are to be offered referrals to the program.

The primary care manager or healthcare provider who receives the results indicating that DU is present in the urine and/or embedded DU fragments are present in the exposed individual must contact the Deployment Health Clinical Center to discuss the results and possible referral to the Baltimore VA Medical Center.

Slide 22

If you have questions or need additional facts on the health-related aspects of DU or with the Operation Iraqi Freedom DU Medical Management Program, the Deployment Health Clinical Center's "PDHealth" website should be consulted. In addition, Service subject matter experts are available for consultation as well as experts at the Deployment Health Clinical Center. You can contact them by email, regular mail, or telephone using the contact information on this final slide.

DoD Deployment Health Clinical Center (DHCC)
Walter Reed Army Medical Center
6900 Georgia Avenue, NW
Bldg 2, Room 3G04
Washington, DC 20307-5001
Clinician Helpline: 1- 866-559-1627
Phone: 202-782-6563 Fax: 202-782-3539
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DSN: 662-6563
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